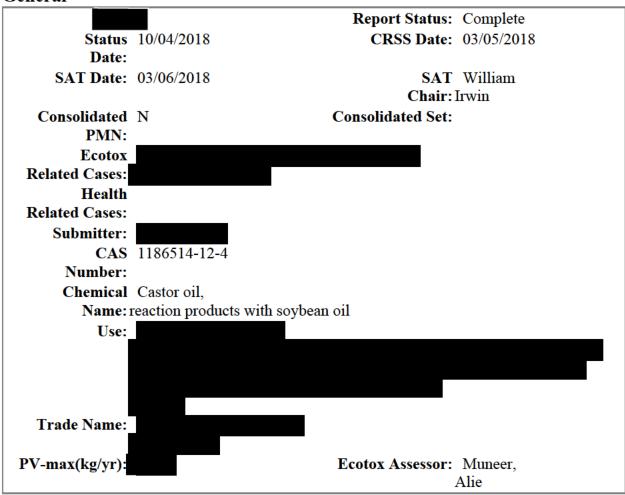
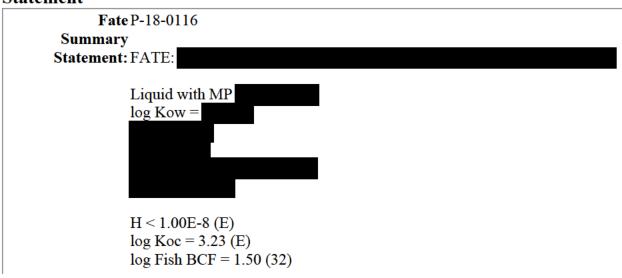
Ecotox Report for Case # P-18-0116

General



Fate Summary

Statement



(E)

log Fish BAF = 1.17 (15) (E)

POTW removal (%) = 90 via

sorption and biodeg; OECD 301F(Mano Resp): 72%/28d, NRB;

MSDS (no

study report, inherent biodegradation): 78%/28d.

Time for complete

ultimate aerobic biodeg = wk

Sorption to soils/sediments = moderate

PBT Potential: P2B1

*CEB FATE: Migration to ground water = slow

Bioconcentration factor to be put into E-FAST: 15

PMN

Material:

Overall wastewater treatment removal is 90% via sorption and biodegradation.

Sorption to sludge is strong based on the estimated physical-chemical properties from EPISUITE.

Air Stripping

(Volatilization to air) is negligible based on the estimated physical-chemical properties from EPISUITE.

Removal by

biodegradation in wastewater treatment is high based on measured data for the PMN substance (OECD 301F (Mano Resp):

Destruction of the substance in wastewater treatment is complete based on measured data for the PMN substance (OECD 301F (Mano Resp):

The aerobic aquatic biodegradation

half-life is weeks based on measured data for the PMN substance (OECD 301F

(Mano Resp):

The anaerobic aquatic

biodegradation half-life is months based on the estimated aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.

Sorption to soil and sediment is moderate based

on the estimated physical-chemical properties from EPISUITE.

Migration to groundwater is slow, mitigated by biodegradation.

PMN Material:

Moderate Persistence (P2) is based on the aerobic and anaerobic biodegradation half-life.

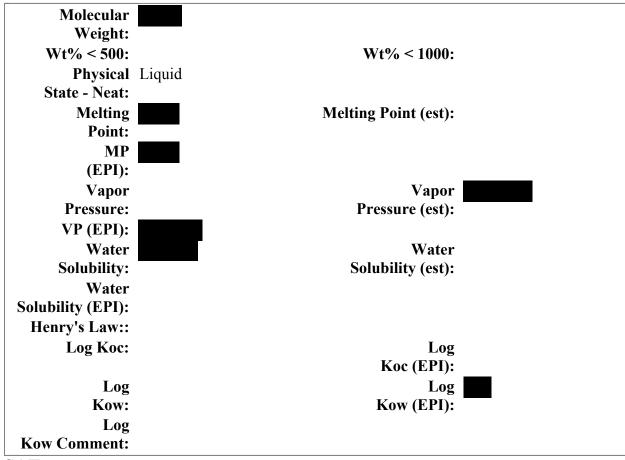
Low Bioaccumulation

potential (B1) is based on BCFBAF model estimates.

Bioconcentration/Bioaccumulation factor to be put into E-Fast: 15

Physical Chemical

Information



SAT

Concern Level

```
Ecotox 3
Rating (1):
Ecotox
Rating Comment
(1):
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Ecotox Rating

(2):

Ecotox

Rating Comment

(2):

Ecotox Route of All releases to

Exposure: water

Ecotox Comments

Exposure N **Based Review** (Eco):

Ecotox Comments:

Exposure Based

Testing:

PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
2	1	1	

Eco-Toxicity Comment:

Fate Ratings

Removal9 in WWT/POTW (Overall): Condition	0 Rating		Rating l	Description		Comment
Condition	Values	1	2	3	4	Comment
Fish BCF:						
Log Fish BCF:						
WWT/POTW	3	Low	Moderate	Strong	V. Strong	
Sorption:						
WWT/POTW	4	Extensive	Moderate	Low	Negligible	
Stripping:						
Biodegradation	2	Unknown	High	Moderate	Negligible	
Removal:						
Biodegradation	2	Unknown	Complete	Partial		
Destruction:						
Aerobic Biodeg	2	<=	Weeks	Months	> Months	
Ult:		Days				

D 10						
Removal 9	00					
in WWT/POTW						
(Overall):	D					
Condition	Rating		_	Description		Comment
	Values	1	2	3	4	
Aerobic Biodeg	2	<=	Weeks	Months	> Months	
Prim:		Days				
Anaerobic	3	<=	Weeks	Months	> Months	
Biodeg Ult:		Days				
Anaerobic	3	<=	Weeks	Months	> Months	
Biodeg Prim:		Days				
Hydrolysis (t1/2	3	<=	Hours	Days	>= Months	
at pH		Minutes				
7,25C) A:				_		
Hydrolysis (t1/2		<=	Hours	Days	>= Months	
at pH		Minutes				
7,25C) B:	_		~ .		_	
Sorption to	3	V.	Strong	Moderate	Low	
Soils/Sediments:	•	Strong	G1	36.1	D 11	
Migration to	2	Negligible	Slow	Moderate	Rapid	
Ground Water:		NT 11 11 1	C1	36.1.4	D 11	
Photolysis A,		Negligible	Slow	Moderate	Rapid	
Direct:		NT 11 11 1	C1	3.6.1.4	D 11	
Photolysis B, Indirect:		Negligible	Slow	Moderate	Rapid	
		NT 11 11 1	C1	36.1.4	D 11	
Atmospheric Ox		Negligible	Slow	Moderate	Rapid	
A, OH:		Maskaible	C1	Madanata	Danid	
Atmospheric Ox B, O3:		Negligible	Slow	Moderate	Rapid	
Bio Comments: F	ON (INT					
	Material:					
		stewater treat	ment removs	al is 90% via	sorntion and	
	oiodegradat		ment remove	11 15 50 70 VIA	scipiton and	
	_		ong based on	the estimated	1	
I .	_	emical prope				
_ -	Air Strippir					
(Volatilizat	ion to air) is 1	negligible ba	sed on the es	timated	
		emical prope	rties from El	PISUITE.		
	Removal by					
					sed on measu	red data for
<u>t</u> 1	he PMN su	ibstance (OE	CD 301F (M	ano Resp):		
	Destruction	of the substa	noo in weete	water treatm	ent is comple	ta hasad
L	Jesu ucholi	or me suosta	mee iii waste	water nearing	ent is comple	ie vaseu

Removal 90 in WWT/POTW (Overall):

Condition Rating Rating Description Comment Values 1 2 3 4

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The aerobic aquatic biodegradation

half-life is weeks based on measured data for the PMN substance (OECD 301F

(Mano Resp):

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Sorption to soil and sediment is moderate based on the estimated physical-chemical properties from EPISUITE.

Migration to groundwater is slow, mitigated by biodegradation.

PMN Material:

Moderate Persistence (P2) is based on the aerobic and anaerobic biodegradation half-life.

Low Bioaccumulation

potential (B1) is based on BCFBAF model estimates.

Bioconcentration/Bioaccumulation factor to be put into E-Fast:

15.

Fate Comments: PMN

Material:

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Removal by

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Condition Rating Rating Description Comment Values 1 2 3 4

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Moderate Persistence (P2) is based on the aerobic and anaerobic biodegradation half-life.

Low Bioaccumulation

potential (B1) is based on BCFBAF model estimates.

Bioconcentration/Bioaccumulation factor to be put into E-Fast:

Ecotoxicity Values

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
Fish	96-h	LC50	1.1	>100	P: LMW monoester
Daphnid	48-h	LC50	1.6		M: WAF
Green Algae	96-h	EC50	0.44	>100	""
Fish	-	Chronic Value	0.04		

organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
8					P: LMW
					monoester
Daphnid	-	Chronic Value	0.49		P: LMW
~		CI.	0.20	100	monoester
Green		Chronic Value	0.28	100	P: LMW
Algae		v aiue			monoester
					M: WAF
					(NOEC)
	effective concer	sAR V2.0); ntrations based on antrations; hardness			
	•	TIGO O			
	toxicity test, and substance.	5-hr acute fish toxi 1 72-hr acute algae ance is a neat liqui	city test, 48- toxicity test	-	
	toxicity test, and substance. The PMN substance bioaccumulation water.	d 72-hr acute algae ance is a neat liquin concern, slightly	city test, 48- toxicity test d, low soluble in w	rater, and nonvo	the PMN clatile in The physical perties for
	toxicity test, and substance. The PMN substance bioaccumulation water.	d 72-hr acute algae ance is a neat liqui n concern, slightly	city test, 48- toxicity test d, low soluble in w	rater, and nonvo	the PMN clatile in The physical perties for
	toxicity test, and substance. The PMN substance bioaccumulation water.	d 72-hr acute algae ance is a neat liquin a concern, slightly e is destroyed. The nce include the fol	city test, 48- toxicity test d, low soluble in w	rater, and nonvo	the PMN clatile in The physical perties for
	toxicity test, and substance. The PMN substabioaccumulation water. state for end use the PMN substa	d 72-hr acute algae ance is a neat liquin a concern, slightly e is destroyed. The nce include the fol	city test, 48- toxicity test d, low soluble in w	rater, and nonvo	the PMN clatile in The physical perties for





Test Test Type Test Endpoint Predicted Experimental Comments organism

therefore the acute and chronic COCs are based on predicted values from ECOSAR Esters-poly chemical class. For all acute toxicity tests, testing was conducted above the water solubility.

Analytical techniques should have tested below the water solubility concentration of A range finding study around the measured water solubility value of Should have been performed and was not performed for all acute toxicity studies. The filter pore size of Was acceptable for all acute toxicity studies. Based on predicted values from ECOSAR for esters-poly chemical class, the acute COC is 110 ppb and chronic COC is 4 ppb.

Acute COC: 110 ppb based on predicted values from ECOSAR esters-poly chemical class Chronic COC:

4 ppb based on predicted values from ECOSAR esters-poly chemical class

Ecotox Reviewer: Alie Muneer Date: March 15,

Ecotox Factors

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
Acute Aquatic		4/10	110	
(ppb):				
Chronic Aquatic			4	
(ppb):				

Factors	Values	Comments
SARs:	Esters	
SAR	Esters-poly	
Class:		
TSCA NCC		
Category?	Esters	

Recommended

Testing:

Ecotox Factors Environmental

Comments: hazard is relevant to whether a new chemical substance is likely to present unreasonable risks because the significance of the risk is

dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical substance using the Ecological Structure Activity Relationships (ECOSAR) Predictive Model

(https://www.epa.gov/tsca-screening-tools/ecological-structure-activity-relationships-ecosar-predictive-model)

and hazard data on analogous chemicals. Based on these estimated hazard values from ECOSAR and hazard data on analogous chemicals, EPA concludes

that this chemical substance is a high environmental hazard.

.

Substance falls within the TSCA New Chemicals Category of Esters.

.

ECOSAR chemical class of Esters-poly.

· High hazard based on an acute

COC of 110 ppb and chronic COC of 4 ppb base on predicted values from ECOSAR chemical class Esters, based on the LMW monoester, which is the smallest chemical structure (i.e., it's the top left chemical structure.)

Environmental Risks:

-Risks were not identified for ecotoxicity

Potentially Useful Information:

Aquatic

Toxicity

Comments/Telephone Log

Artifact	Update/Upload Time
	02/28/2018 08:01